FIBERS SITE GROUP

December 12, 2016

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – November 2016
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *Unites States v. Anaquest Caribe, Inc. et al*, Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Evelyn Rivera-Ocasio, Assistant Regional Counsel – Caribbean Programs – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
Amarilis Rodriguez Mendez, State Remedial Project Manager, Puerto Rico Environmental Quality Board - via email only
Ms. Katherine Mishkin, Hydrogeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – November 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers groundwater extraction and treatment system (GWETS) was operational for approximately 90% of the time during November 2016. The GWETS had two automated shutdowns due to power outages and equipment alarms and was then started at the Site the next business day. In addition, it had one shutdown due to GWETS maintenance.

A summary of the daily treatment system operating records is presented in Table 1. The GWETS average flow rates are depicted on Figure 1. The GWETS operated at an average flow rate of 316 gallons per minute (gpm) and treated approximately 15.2 million gallons of water in November 2016. To date (since May 1999), approximately 3.04 billion gallons of water have been treated at the Fibers Site.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

Groundwater influent and effluent samples were collected on November 4, 2016 and analyzed by Pace Analytical Services, Inc. (Pace). A summary of the November 4, 2016 GWETS Laboratory Analytical Results is provided in Table 2. A summary of influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers from the GWETS is depicted on Figures 2 and 3, respectively.

Arcadis U.S., Inc. (Arcadis) performed a data quality assessment (validation) of the laboratory analytical results reported by Pace. Results are summarized in the Data Review Report #26692R and provided as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete Laboratory Analytical Report #2045396 is provided as Attachment 2. A copy of the GWETS Sampling and Monitoring Field Form, documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

None for this reporting period.

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

The second semi-annual groundwater monitoring and sampling event of 2016 commenced on October 17, 2016 and is expected to be completed in December 2016.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – In progress.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - November 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
11/1/2016	351	388	115	160	80	8.2	
11/2/2016	351	388	115	160	80	8.2	GWETS maintenance.
11/3/2016	351	388	115	160	80	8.2	GWETS maintenance.
11/4/2016	292	324	96	134	67	8.2	GWETS down due to power outage and equipment alarm.
11/5/2016	0	0	0	0	0	8.3	GWETS down due to equipment alarm.
11/6/2016	0	0	0	0	0	8.3	GWETS down due to equipment alarm.
11/7/2016	234	259	78	108	54	8.3	Started GWETS.
11/8/2016	351	388	115	160	80	8.3	
11/9/2016	351	389	115	160	80	8.3	
11/10/2016	351	389	115	160	80	8.3	
11/11/2016	351	389	115	160	80	8.3	GWETS maintenance.
11/12/2016	351	389	115	160	80	8.3	
11/13/2016	351	389	115	160	80	8.2	
11/14/2016	351	389	115	160	80	8.2	
11/15/2016	216	240	73	101	47	8.2	GWETS maintenance.
11/16/2016	351	389	115	160	80	8.2	GWETS maintenance.
11/17/2016	351	391	115	160	80	8.2	
11/18/2016	351	390	115	160	80	8.2	
11/19/2016	351	390	115	160	80	8.2	
11/20/2016	350	390	115	160	80	8.2	
11/21/2016	351	389	115	160	80	8.2	
11/22/2016	351	390	115	160	80	8.2	
11/23/2016	351	391	115	160	80	8.2	
11/24/2016	351	390	115	160	80	8.2	
11/25/2016	351	390	115	160	80	8.2	
11/26/2016	351	391	115	160	80	8.2	
11/27/2016	351	391	115	160	80	8.2	
11/28/2016	352	393	115	160	80	8.2	
11/29/2016	351	391	115	160	80	8.2	
11/30/2016	322	361	106	147	74	8.2	GWETS down due to power outage and equipment alarm.
Monthly Average	316	351	104	144	72	8.2	

Notes:

Flow rates are 24-hour daily average.

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101.

[2] = Recorded from instrument FIT-301.

[3] = Recorded from instrument RW2 FIT.

[4] = Recorded from instrument RW4 FIT.

[5] = Recorded from instrument RW5 FIT.

[6] = Recorded from instrument pHIT-201A.

Table 2
Summary of Treatment System Laboratory Analytical Results
November 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on November 4, 2016 are presented below. The system average effluent flow rate at the time the samples were collected was 386 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20161104	EFFDUP-20161104	INF-20161104	TB-20161104
Tetrachloroethene	ND	ND	7.7	ND
Trichloroethene	ND	ND	ND	ND
Cis-1,2-dichloroethene	ND	ND	ND	ND
Enflurane	ND	ND	1.9	ND
Haloether 229	ND	ND	25.3	ND
Haloether 406	ND	ND	1.1	ND
Haloether 508	ND	ND	50.6	ND
Haloether 528	ND	ND	1.3	ND
Halomar	ND	ND	1.3	ND
Isoflurane	ND	ND	98.3	ND
Total Haloethers	ND	ND	180	ND
Acetone	17.4 UB	15.1 UB	12.2 UB	36.5
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.
ND = not detected at or above laboratory reporting limit.
UB = compound considered non-detect at the listed value due to associated blank contamination.

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

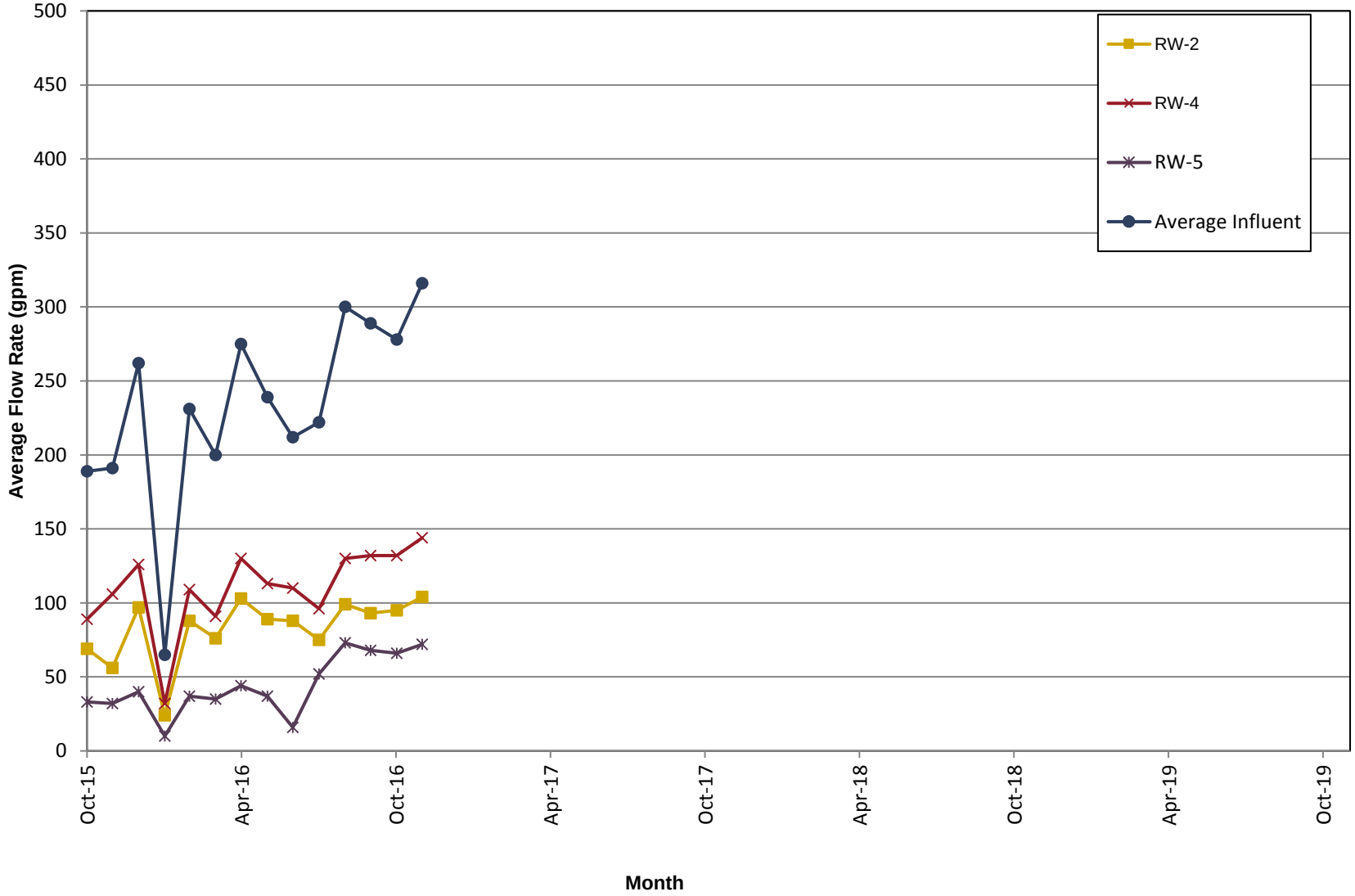


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

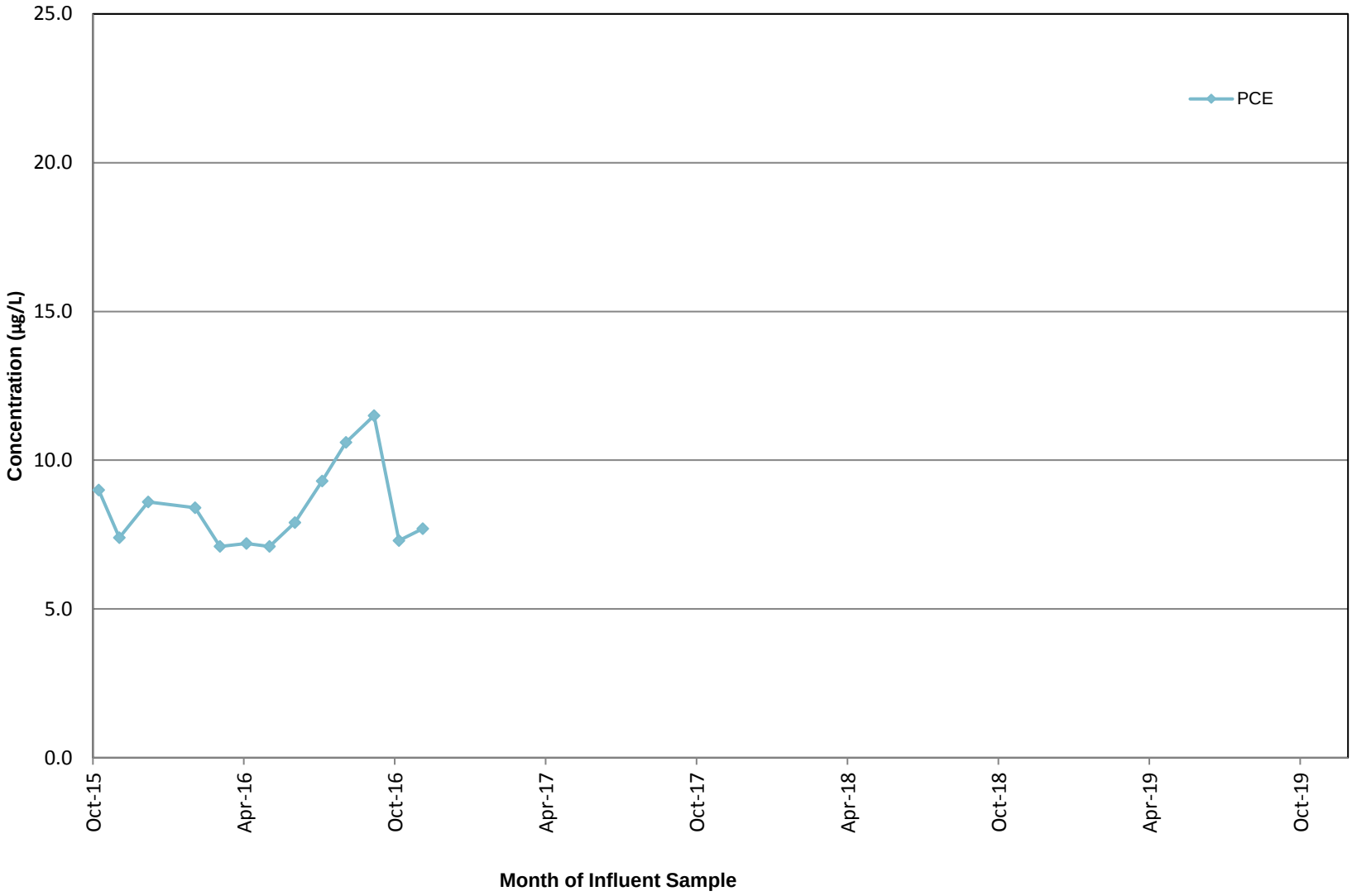
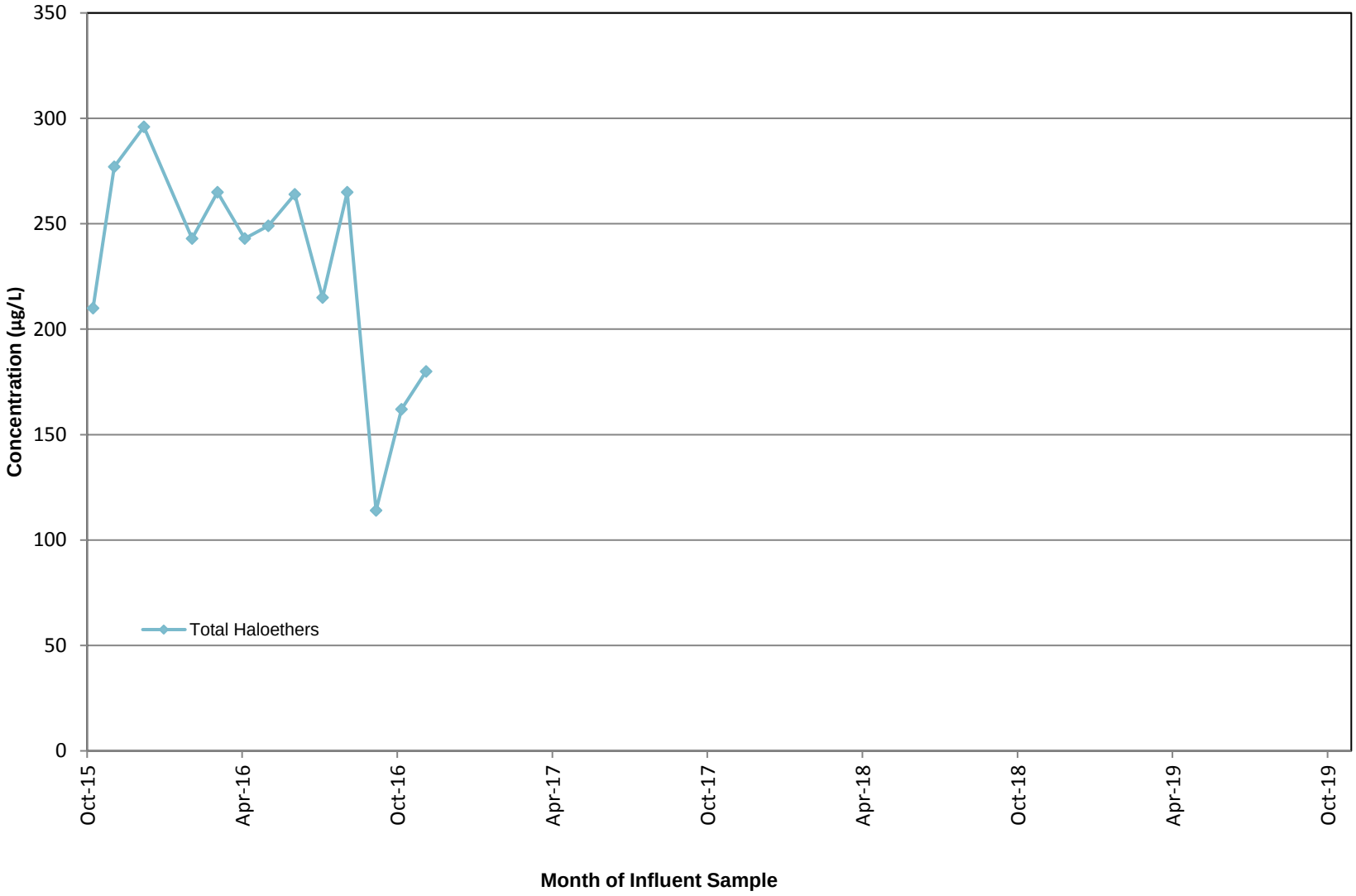


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report #26692R

ARCADIS Design & Consultancy for natural and built assets

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2045396
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #26692R
Review Level: Tier II
Project: CO001911.0003.1605A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2045396 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20161104	2045396001	Water	11/04/2016		X				
INF-20161104	2045396002	Water	11/04/2016		X				
EFF-20161104	2045396003	Water	11/04/2016		X				
EFFDUP-20161104	2045396004	Water	11/04/2016	EFF-20161104	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20161104.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the RL, with the exception of the compounds listed in the following table. Sample results less than the BAL associated with the following sample locations were qualified as listed in the following table.

Sample Locations	Analytes	Sample Result	Qualification
INF-20161104 EFF-20161104 EFFDUP-20161104	Acetone (TB)	Detected sample results >RL and <BAL	"UB" at detected sample concentration

RL Reporting limit

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
EFF-20161104	Carbon disulfide	>UL	AC
	Styrene	<10%	<10%

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
EFF-20161104	Haloether 229

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20161104/ EFFDUP-20161104	All compounds	U	U	AC

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X	X		
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X	X		
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: November 23, 2016

PEER REVIEW: Dennis Capria

DATE: November 30, 2016

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: TB-20161104 **Lab ID: 2045396001** Collected: 11/04/16 00:00 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**36.5**	ug/L	4.0	1		11/09/16 12:47	67-64-1	
Acrolein	ND	ug/L	8.0	1		11/09/16 12:47	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 12:47	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 12:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 12:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 12:47	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 12:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 12:47	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 12:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 12:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 12:47	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 12:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 12:47	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 12:47	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 12:47	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 12:47	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 12:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:47	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 12:47	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 12:47	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 406	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 421	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 427	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 428	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 508	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 528	ND	ug/L	1.0	1		11/09/16 12:47		
Halomar	ND	ug/L	1.0	1		11/09/16 12:47		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 12:47	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 12:47		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 12:47	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 12:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 12:47	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 12:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 12:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 12:47	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 12:47	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 12:47		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: TB-20161104 **Lab ID: 2045396001** Collected: 11/04/16 00:00 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 12:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 12:47	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 12:47	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 12:47	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 12:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 12:47	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%.	79-119	1		11/09/16 12:47	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 12:47	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		11/09/16 12:47	1868-53-7	

Sample: INF-20161104 **Lab ID: 2045396002** Collected: 11/04/16 14:45 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.2**	ug/L	4.0	1		11/09/16 13:05	67-64-1	UB
Acrolein	ND	ug/L	8.0	1		11/09/16 13:05	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 13:05	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 13:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 13:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 13:05	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 13:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 13:05	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 13:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 13:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 13:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 13:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 13:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 13:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 13:05	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 13:05	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 13:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:05	10061-02-6	
Enflurane	**1.9**	ug/L	1.0	1		11/09/16 13:05	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 13:05	100-41-4	
Haloether 229	**25.3**	ug/L	1.0	1		11/09/16 13:05		
Haloether 406	**1.1**	ug/L	1.0	1		11/09/16 13:05		
Haloether 421	ND	ug/L	1.0	1		11/09/16 13:05		
Haloether 427	ND	ug/L	1.0	1		11/09/16 13:05		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: INF-20161104 **Lab ID: 2045396002** Collected: 11/04/16 14:45 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		11/09/16 13:05		
Haloether 508	**50.6**	ug/L	1.0	1		11/09/16 13:05		
Haloether 528	**1.3**	ug/L	1.0	1		11/09/16 13:05		
Halomar	**1.3**	ug/L	1.0	1		11/09/16 13:05		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 13:05	591-78-6	
Isoflurane	**98.3**	ug/L	1.0	1		11/09/16 13:05		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 13:05	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 13:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 13:05	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 13:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 13:05	79-34-5	
Tetrachloroethene	**7.7**	ug/L	1.0	1		11/09/16 13:05	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 13:05	108-88-3	
Total Haloether	**180**	ug/L	1.0	1		11/09/16 13:05		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 13:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 13:05	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 13:05	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 13:05	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 13:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 13:05	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		11/09/16 13:05	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		11/09/16 13:05	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		11/09/16 13:05	1868-53-7	

Sample: EFF-20161104 **Lab ID: 2045396003** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**17.4**	ug/L	4.0	1		11/09/16 12:29	67-64-1	UB
Acrolein	ND	ug/L	8.0	1		11/09/16 12:29	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 12:29	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 12:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 12:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 12:29	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 12:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 12:29	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 12:29	75-15-0	~~M1~~
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 12:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 12:29	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 12:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 12:29	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFF-20161104 **Lab ID: 2045396003** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		11/09/16 12:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 12:29	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 12:29	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 12:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:29	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 12:29	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 12:29	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 12:29		~~R1~~ UJ
Haloether 406	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 421	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 427	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 428	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 508	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 528	ND	ug/L	1.0	1		11/09/16 12:29		
Halomar	ND	ug/L	1.0	1		11/09/16 12:29		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 12:29	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 12:29		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 12:29	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 12:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 12:29	108-10-1	
Styrene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~11/09/16 12:29~~	~~100-42-5~~	~~M1~~ R
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 12:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 12:29	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 12:29	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 12:29		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 12:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 12:29	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 12:29	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 12:29	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 12:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 12:29	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		11/09/16 12:29	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 12:29	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		11/09/16 12:29	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
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Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFFDUP-20161104 **Lab ID: 2045396004** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**15.1**	ug/L	4.0	1		11/09/16 13:22	67-64-1	UB
Acrolein	ND	ug/L	8.0	1		11/09/16 13:22	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 13:22	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 13:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 13:22	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 13:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 13:22	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 13:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 13:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 13:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 13:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 13:22	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 13:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 13:22	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 13:22	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 13:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:22	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 13:22	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 13:22	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 406	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 421	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 427	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 428	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 508	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 528	ND	ug/L	1.0	1		11/09/16 13:22		
Halomar	ND	ug/L	1.0	1		11/09/16 13:22		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 13:22	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 13:22		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 13:22	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 13:22	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 13:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 13:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 13:22	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 13:22	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 13:22		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFFDUP-20161104 **Lab ID: 2045396004** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 13:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 13:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 13:22	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 13:22	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 13:22	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 13:22	95-47-6	
Surrogates								
Toluene-d8 (S)	98	%.	79-119	1		11/09/16 13:22	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 13:22	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		11/09/16 13:22	1868-53-7	

Pace Analytical

CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL D

WO# : 2045396

2045396

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS U.S., Inc.	Report To:	David Howard	Attention:	Accounts Payable
Address:	410 North 44th St., Suite 1000	Copy To:	Cassandra McCloud	Company Name:	ARCADIS
	Phoenix, AZ 85008		cassandra.mccloud@arcadis-us.com	Address:	
Email To:	david.howard@arcadis-us.com	Purchase Order #:	CO001911.0003 1602A	Pace Quote:	
Phone:	602.797.4518 Fax:	Project Name:	Fibers Public Supply Wells	Pace Project Manager:	justin.stock@pacelabs.com
Requested Due Date:		Project #:	CO001911.0003 1602A	Pace Profile #:	10377-1

Regulatory Agency: CERCLA
State / Location: PR

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: EPA 8260B Haloethers	SM 2320B Alkalinity	SM 5310B TOC	ASTM D516-90,02 Sulfate	EPA 6010 Dissolved Metals (Fe, Mn)	EPA 6010 Total Metals (Fe, Mn)	RSK 175 Methane	EPA 300.0 Chloride	Residual Chlorine (Y/N)	Comments
1	TB-20161104	WT	G			11/04/16	LAB		2				X						X									
2	INF-20161104	WT	G			11/04/16	1445		3				X						X									
3	EFF-20161104	WT	G			11/04/16	1509		3				X						X									
4	EFFDUP-20161104	WT	G			11/04/16	1509		3				X						X									
5	EFF-MS-20161104	WT	G			11/04/16	1509		3				X						X									
6	EFFMSD-20161104	WT	G			11/04/16	1509		3				X						X									
7																												
8																												
9																												
10																												
11																												
12																												

Fibers.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Andrew Colom Arcadis	11/04/16	1658							
		11-7-16	9:10	Fed Ex	11/4/16	1458	3°	X	X	X
	Fed Ex	11-8-16	0815	Pace	11-8-16	0815	0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrew Colom

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/04/16

Attachment 2
Laboratory Analytical Report #2045396

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

November 16, 2016

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on November 08, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Justin L. Stock
justin.stock@pacelabs.com
Project Manager

Enclosures

cc: Janisse Diaz, Arcadis
Cassandra McCloud
Elvin Varela, ARCADIS

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CERTIFICATIONS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Commonwealth of Virginia (TNI): 480246

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SAMPLE SUMMARY

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2045396001	**TB-20161104**	Water	11/04/16 00:00	11/08/16 08:15
2045396002	**INF-20161104**	Water	11/04/16 14:45	11/08/16 08:15
2045396003	**EFF-20161104**	Water	11/04/16 15:09	11/08/16 08:15
2045396004	**EFFDUP-20161104**	Water	11/04/16 15:09	11/08/16 08:15

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SAMPLE ANALYTE COUNT

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2045396001	**TB-20161104**	EPA 5030B/8260	MLS	56	PASI-N
2045396002	**INF-20161104**	EPA 5030B/8260	MLS	56	PASI-N
2045396003	**EFF-20161104**	EPA 5030B/8260	MLS	56	PASI-N
2045396004	**EFFDUP-20161104**	EPA 5030B/8260	MLS	56	PASI-N

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: November 16, 2016

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 67289

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2045396003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 279863)
  - Carbon disulfide
  - Styrene
- MSD (Lab ID: 279864)
  - Styrene

R1: RPD value was outside control limits.

- MSD (Lab ID: 279864)
  - Haloether 229

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: TB-20161104 **Lab ID: 2045396001** Collected: 11/04/16 00:00 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**36.5**	ug/L	4.0	1		11/09/16 12:47	67-64-1	
Acrolein	ND	ug/L	8.0	1		11/09/16 12:47	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 12:47	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 12:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 12:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 12:47	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 12:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 12:47	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 12:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 12:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 12:47	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 12:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 12:47	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 12:47	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 12:47	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 12:47	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 12:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:47	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 12:47	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 12:47	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 406	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 421	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 427	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 428	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 508	ND	ug/L	1.0	1		11/09/16 12:47		
Haloether 528	ND	ug/L	1.0	1		11/09/16 12:47		
Halomar	ND	ug/L	1.0	1		11/09/16 12:47		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 12:47	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 12:47		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 12:47	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 12:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 12:47	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 12:47	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 12:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 12:47	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 12:47	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 12:47		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 12:47	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: TB-20161104 **Lab ID: 2045396001** Collected: 11/04/16 00:00 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 12:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 12:47	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 12:47	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 12:47	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 12:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 12:47	95-47-6	
Surrogates								
Toluene-d8 (S)	101	%.	79-119	1		11/09/16 12:47	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 12:47	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		11/09/16 12:47	1868-53-7	

Sample: INF-20161104 **Lab ID: 2045396002** Collected: 11/04/16 14:45 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.2**	ug/L	4.0	1		11/09/16 13:05	67-64-1	
Acrolein	ND	ug/L	8.0	1		11/09/16 13:05	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 13:05	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 13:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 13:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 13:05	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 13:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 13:05	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 13:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 13:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 13:05	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 13:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 13:05	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 13:05	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 13:05	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 13:05	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 13:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:05	10061-02-6	
Enflurane	**1.9**	ug/L	1.0	1		11/09/16 13:05	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 13:05	100-41-4	
Haloether 229	**25.3**	ug/L	1.0	1		11/09/16 13:05		
Haloether 406	**1.1**	ug/L	1.0	1		11/09/16 13:05		
Haloether 421	ND	ug/L	1.0	1		11/09/16 13:05		
Haloether 427	ND	ug/L	1.0	1		11/09/16 13:05		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: INF-20161104 **Lab ID: 2045396002** Collected: 11/04/16 14:45 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		11/09/16 13:05		
Haloether 508	**50.6**	ug/L	1.0	1		11/09/16 13:05		
Haloether 528	**1.3**	ug/L	1.0	1		11/09/16 13:05		
Halomar	**1.3**	ug/L	1.0	1		11/09/16 13:05		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 13:05	591-78-6	
Isoflurane	**98.3**	ug/L	1.0	1		11/09/16 13:05		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 13:05	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 13:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 13:05	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 13:05	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 13:05	79-34-5	
Tetrachloroethene	**7.7**	ug/L	1.0	1		11/09/16 13:05	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 13:05	108-88-3	
Total Haloether	**180**	ug/L	1.0	1		11/09/16 13:05		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 13:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 13:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 13:05	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 13:05	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 13:05	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 13:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 13:05	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		11/09/16 13:05	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	68-124	1		11/09/16 13:05	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		11/09/16 13:05	1868-53-7	

Sample: EFF-20161104 **Lab ID: 2045396003** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**17.4**	ug/L	4.0	1		11/09/16 12:29	67-64-1	
Acrolein	ND	ug/L	8.0	1		11/09/16 12:29	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 12:29	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 12:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 12:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 12:29	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 12:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 12:29	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 12:29	75-15-0	M1
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 12:29	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 12:29	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 12:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 12:29	67-66-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFF-20161104 **Lab ID: 2045396003** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		11/09/16 12:29	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 12:29	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 12:29	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 12:29	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:29	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 12:29	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 12:29	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 12:29	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 12:29		R1
Haloether 406	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 421	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 427	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 428	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 508	ND	ug/L	1.0	1		11/09/16 12:29		
Haloether 528	ND	ug/L	1.0	1		11/09/16 12:29		
Halomar	ND	ug/L	1.0	1		11/09/16 12:29		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 12:29	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 12:29		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 12:29	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 12:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 12:29	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 12:29	100-42-5	M1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 12:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 12:29	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 12:29	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 12:29		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 12:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 12:29	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 12:29	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 12:29	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 12:29	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 12:29	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 12:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 12:29	95-47-6	
Surrogates								
Toluene-d8 (S)	99	%.	79-119	1		11/09/16 12:29	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 12:29	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		11/09/16 12:29	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFFDUP-20161104 **Lab ID: 2045396004** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**15.1**	ug/L	4.0	1		11/09/16 13:22	67-64-1	
Acrolein	ND	ug/L	8.0	1		11/09/16 13:22	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		11/09/16 13:22	107-13-1	
Benzene	ND	ug/L	1.0	1		11/09/16 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/09/16 13:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/09/16 13:22	75-25-2	
Bromomethane	ND	ug/L	1.0	1		11/09/16 13:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		11/09/16 13:22	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		11/09/16 13:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/09/16 13:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/09/16 13:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/09/16 13:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/09/16 13:22	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/09/16 13:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		11/09/16 13:22	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		11/09/16 13:22	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/09/16 13:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:22	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/09/16 13:22	10061-02-6	
Enflurane	ND	ug/L	1.0	1		11/09/16 13:22	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		11/09/16 13:22	100-41-4	
Haloether 229	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 406	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 421	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 427	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 428	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 508	ND	ug/L	1.0	1		11/09/16 13:22		
Haloether 528	ND	ug/L	1.0	1		11/09/16 13:22		
Halomar	ND	ug/L	1.0	1		11/09/16 13:22		
2-Hexanone	ND	ug/L	2.0	1		11/09/16 13:22	591-78-6	
Isoflurane	ND	ug/L	1.0	1		11/09/16 13:22		
Methoxyflurane	ND	ug/L	1.0	1		11/09/16 13:22	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		11/09/16 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		11/09/16 13:22	108-10-1	
Styrene	ND	ug/L	1.0	1		11/09/16 13:22	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/09/16 13:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/09/16 13:22	127-18-4	
Toluene	ND	ug/L	1.0	1		11/09/16 13:22	108-88-3	
Total Haloether	ND	ug/L	1.0	1		11/09/16 13:22		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/09/16 13:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/09/16 13:22	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Sample: EFFDUP-20161104 **Lab ID: 2045396004** Collected: 11/04/16 15:09 Received: 11/08/16 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		11/09/16 13:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		11/09/16 13:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		11/09/16 13:22	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		11/09/16 13:22	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		11/09/16 13:22	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		11/09/16 13:22	95-47-6	
Surrogates								
Toluene-d8 (S)	98	%.	79-119	1		11/09/16 13:22	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	68-124	1		11/09/16 13:22	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		11/09/16 13:22	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

QC Batch: 67289 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2045396001, 2045396002, 2045396003, 2045396004

METHOD BLANK: 279861 Matrix: Water
Associated Lab Samples: 2045396001, 2045396002, 2045396003, 2045396004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/09/16 11:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/09/16 11:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/09/16 11:01	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	11/09/16 11:01	
1,1-Dichloroethane	ug/L	ND	1.0	11/09/16 11:01	
1,1-Dichloroethene	ug/L	ND	1.0	11/09/16 11:01	
1,2,3-Trichloropropane	ug/L	ND	1.0	11/09/16 11:01	
1,2-Dichloroethane	ug/L	ND	1.0	11/09/16 11:01	
1,2-Dichloropropane	ug/L	ND	1.0	11/09/16 11:01	
2-Butanone (MEK)	ug/L	ND	2.0	11/09/16 11:01	
2-Hexanone	ug/L	ND	2.0	11/09/16 11:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	11/09/16 11:01	
Acetone	ug/L	ND	4.0	11/09/16 11:01	
Acrolein	ug/L	ND	8.0	11/09/16 11:01	
Acrylonitrile	ug/L	ND	4.0	11/09/16 11:01	
Benzene	ug/L	ND	1.0	11/09/16 11:01	
Bromodichloromethane	ug/L	ND	1.0	11/09/16 11:01	
Bromoform	ug/L	ND	1.0	11/09/16 11:01	
Bromomethane	ug/L	ND	1.0	11/09/16 11:01	
Carbon disulfide	ug/L	ND	1.0	11/09/16 11:01	
Carbon tetrachloride	ug/L	ND	1.0	11/09/16 11:01	
Chlorobenzene	ug/L	ND	1.0	11/09/16 11:01	
Chloroethane	ug/L	ND	1.0	11/09/16 11:01	
Chloroform	ug/L	ND	1.0	11/09/16 11:01	
Chloromethane	ug/L	ND	1.0	11/09/16 11:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/09/16 11:01	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/09/16 11:01	
Dibromochloromethane	ug/L	ND	1.0	11/09/16 11:01	
Dibromomethane	ug/L	ND	1.0	11/09/16 11:01	
Enflurane	ug/L	ND	1.0	11/09/16 11:01	
Ethylbenzene	ug/L	ND	1.0	11/09/16 11:01	
Haloether 229	ug/L	ND	1.0	11/09/16 11:01	
Haloether 406	ug/L	ND	1.0	11/09/16 11:01	
Haloether 421	ug/L	ND	1.0	11/09/16 11:01	
Haloether 427	ug/L	ND	1.0	11/09/16 11:01	
Haloether 428	ug/L	ND	1.0	11/09/16 11:01	
Haloether 508	ug/L	ND	1.0	11/09/16 11:01	
Haloether 528	ug/L	ND	1.0	11/09/16 11:01	
Halomar	ug/L	ND	1.0	11/09/16 11:01	
Isoflurane	ug/L	ND	1.0	11/09/16 11:01	
m&p-Xylene	ug/L	ND	2.0	11/09/16 11:01	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

METHOD BLANK: 279861 Matrix: Water
Associated Lab Samples: 2045396001, 2045396002, 2045396003, 2045396004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	11/09/16 11:01	
Methylene Chloride	ug/L	ND	5.0	11/09/16 11:01	
o-Xylene	ug/L	ND	1.0	11/09/16 11:01	
Styrene	ug/L	ND	1.0	11/09/16 11:01	
Tetrachloroethene	ug/L	ND	1.0	11/09/16 11:01	
Toluene	ug/L	ND	1.0	11/09/16 11:01	
Total Haloether	ug/L	ND	1.0	11/09/16 11:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/09/16 11:01	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/09/16 11:01	
Trichloroethene	ug/L	ND	1.0	11/09/16 11:01	
Trichlorofluoromethane	ug/L	ND	1.0	11/09/16 11:01	
Vinyl chloride	ug/L	ND	1.0	11/09/16 11:01	
4-Bromofluorobenzene (S)	%.	99	68-124	11/09/16 11:01	
Dibromofluoromethane (S)	%.	100	72-126	11/09/16 11:01	
Toluene-d8 (S)	%.	101	79-119	11/09/16 11:01	

LABORATORY CONTROL SAMPLE: 279862

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.2	112	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	50.7	101	15-179	
1,1,2-Trichloroethane	ug/L	50	49.7	99	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	52.2	104	38-121	
1,1-Dichloroethane	ug/L	50	53.4	107	63-129	
1,1-Dichloroethene	ug/L	50	51.5	103	51-139	
1,2,3-Trichloropropane	ug/L	50	51.2	102	13-187	
1,2-Dichloroethane	ug/L	50	53.4	107	57-148	
1,2-Dichloropropane	ug/L	50	54.2	108	66-128	
2-Butanone (MEK)	ug/L	50	57.9	116	32-183	
2-Hexanone	ug/L	50	52.3	105	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	54.4	109	26-171	
Acetone	ug/L	50	55.1	110	22-165	
Acrolein	ug/L	100	100	100	10-131	
Acrylonitrile	ug/L	50	53.5	107	18-149	
Benzene	ug/L	50	55.6	111	62-131	
Bromodichloromethane	ug/L	50	49.0	98	69-132	
Bromoform	ug/L	50	43.3	87	35-166	
Bromomethane	ug/L	50	49.3	99	34-158	
Carbon disulfide	ug/L	50	57.8	116	31-128	
Carbon tetrachloride	ug/L	50	54.2	108	54-144	
Chlorobenzene	ug/L	50	51.2	102	70-127	
Chloroethane	ug/L	50	44.0	88	17-195	
Chloroform	ug/L	50	50.9	102	73-134	
Chloromethane	ug/L	50	53.0	106	17-153	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

LABORATORY CONTROL SAMPLE: 279862

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	53.3	107	68-129	
cis-1,3-Dichloropropene	ug/L	50	53.9	108	72-138	
Dibromochloromethane	ug/L	50	46.5	93	49-146	
Dibromomethane	ug/L	50	50.4	101	56-145	
Enflurane	ug/L	50	52.3	105	56-135	
Ethylbenzene	ug/L	50	49.4	99	66-126	
Haloether 229	ug/L	50	54.8	110	62-123	
Haloether 406	ug/L	50	54.5	109	62-134	
Haloether 421	ug/L	50	54.5	109	70-128	
Haloether 427	ug/L	50	51.2	102	69-153	
Haloether 428	ug/L	50	53.8	108	70-134	
Haloether 508	ug/L	50	52.7	105	52-139	
Haloether 528	ug/L	50	49.2	98	48-157	
Halomar	ug/L	50	54.8	110	62-128	
Isoflurane	ug/L	50	52.9	106	61-132	
m&p-Xylene	ug/L	100	100	100	65-129	
Methoxyflurane	ug/L	50	54.7	109	72-124	
Methylene Chloride	ug/L	50	53.9	108	46-168	
o-Xylene	ug/L	50	49.1	98	65-124	
Styrene	ug/L	50	51.0	102	72-133	
Tetrachloroethene	ug/L	50	49.2	98	46-157	
Toluene	ug/L	50	52.9	106	69-126	
Total Haloether	ug/L		585			
trans-1,2-Dichloroethene	ug/L	50	52.3	105	60-129	
trans-1,3-Dichloropropene	ug/L	50	53.9	108	59-149	
Trichloroethene	ug/L	50	53.5	107	67-132	
Trichlorofluoromethane	ug/L	50	57.8	116	39-171	
Vinyl chloride	ug/L	50	44.6	89	27-149	
4-Bromofluorobenzene (S)	%.			101	68-124	
Dibromofluoromethane (S)	%.			104	72-126	
Toluene-d8 (S)	%.			102	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 279863 279864

Parameter	Units	2045396003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	60.4	55.2	121	110	54-137	9	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	52.3	52.8	105	106	15-187	1	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	51.5	50.7	103	101	59-148	2	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	53.7	48.2	107	96	40-117	11	20	
1,1-Dichloroethane	ug/L	ND	50	50	57.6	53.6	115	107	59-133	7	20	
1,1-Dichloroethene	ug/L	ND	50	50	55.6	50.4	111	101	44-146	10	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	52.0	52.3	104	105	14-199	1	20	
1,2-Dichloroethane	ug/L	ND	50	50	55.7	53.4	111	107	56-154	4	20	
1,2-Dichloropropane	ug/L	ND	50	50	56.6	54.1	113	108	62-135	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 279863 279864

Parameter	Units	2045396003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	50	50	60.3	58.3	121	117	20-205	3	20	
2-Hexanone	ug/L	ND	50	50	52.7	53.1	105	106	25-189	1	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	53.3	53.2	107	106	23-184	0	20	
Acetone	ug/L	17.4	50	50	70.9	71.0	107	107	11-217	0	20	
Acrolein	ug/L	ND	100	100	45.5	41.9	46	42	10-142	8	20	
Acrylonitrile	ug/L	ND	50	50	52.0	51.7	104	103	20-164	0	20	
Benzene	ug/L	ND	50	50	59.1	55.8	118	112	52-141	6	20	
Bromodichloromethane	ug/L	ND	50	50	52.3	50.8	105	102	70-134	3	20	
Bromoform	ug/L	ND	50	50	43.9	43.8	87	87	37-171	0	20	
Bromomethane	ug/L	ND	50	50	49.0	40.2	98	80	34-155	20	20	
Carbon disulfide	ug/L	ND	50	50	67.6	55.4	135	111	28-130	20	20	M1
Carbon tetrachloride	ug/L	ND	50	50	57.4	53.0	115	106	48-146	8	20	
Chlorobenzene	ug/L	ND	50	50	53.2	51.3	106	103	67-129	4	20	
Chloroethane	ug/L	ND	50	50	43.4	38.8	87	78	12-192	11	20	
Chloroform	ug/L	ND	50	50	54.5	51.4	109	103	66-143	6	20	
Chloromethane	ug/L	ND	50	50	59.9	53.0	119	105	14-155	12	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	57.4	53.7	115	107	56-141	7	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	56.8	55.0	114	110	70-139	3	20	
Dibromochloromethane	ug/L	ND	50	50	47.3	46.9	95	94	50-150	1	20	
Dibromomethane	ug/L	ND	50	50	53.1	51.3	106	103	58-153	3	20	
Enflurane	ug/L	ND	50	50	54.5	49.9	109	100	63-126	9	20	
Ethylbenzene	ug/L	ND	50	50	51.9	50.2	104	100	57-135	3	20	
Haloether 229	ug/L	ND	50	50	58.2	44.1	116	88	56-127	28	20	R1
Haloether 406	ug/L	ND	50	50	52.4	47.1	105	94	68-128	11	20	
Haloether 421	ug/L	ND	50	50	56.6	52.7	113	105	74-120	7	20	
Haloether 427	ug/L	ND	50	50	52.3	49.4	105	99	78-120	6	20	
Haloether 428	ug/L	ND	50	50	54.1	51.7	108	103	74-125	5	20	
Haloether 508	ug/L	ND	50	50	49.9	45.2	100	90	28-156	10	20	
Haloether 528	ug/L	ND	50	50	48.5	45.2	97	90	45-142	7	20	
Halomar	ug/L	ND	50	50	57.1	53.3	114	107	67-123	7	20	
Isoflurane	ug/L	ND	50	50	53.6	50.2	107	100	45-140	7	20	
m&p-Xylene	ug/L	ND	100	100	68.9	67.4	69	67	56-136	2	20	
Methoxyflurane	ug/L	ND	50	50	55.4	53.4	111	107	75-119	4	20	
Methylene Chloride	ug/L	ND	50	50	56.6	52.3	113	105	45-166	8	20	
o-Xylene	ug/L	ND	50	50	49.7	48.6	99	97	57-133	2	20	
Styrene	ug/L	ND	50	50	1.5	1.4	3	3	58-144	8	20	M1
Tetrachloroethene	ug/L	ND	50	50	53.0	51.0	106	102	48-143	4	20	
Toluene	ug/L	ND	50	50	56.7	53.2	113	106	59-136	6	20	
Total Haloether	ug/L	ND			593	542				9		
trans-1,2-Dichloroethene	ug/L	ND	50	50	57.1	53.3	114	107	57-132	7	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	56.0	54.6	112	109	59-154	3	20	
Trichloroethene	ug/L	ND	50	50	58.0	53.6	116	107	58-140	8	20	
Trichlorofluoromethane	ug/L	ND	50	50	53.9	47.4	108	95	24-175	13	20	
Vinyl chloride	ug/L	ND	50	50	41.1	36.8	82	74	21-150	11	20	
4-Bromofluorobenzene (S)	%.						100	101	68-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 279863 279864

Parameter	Units	2045396003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%.						105	102	72-126			
Toluene-d8 (S)	%.						102	102	79-119			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Fibers Public Supply Wells
Pace Project No.: 2045396

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2045396001	**TB-20161104**	EPA 5030B/8260	67289		
2045396002	**INF-20161104**	EPA 5030B/8260	67289		
2045396003	**EFF-20161104**	EPA 5030B/8260	67289		
2045396004	**EFFDUP-20161104**	EPA 5030B/8260	67289		

Pace Analytical

CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL D

WO# : 2045396

2045396

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS U.S., Inc.	Report To:	David Howard	Attention:	Accounts Payable
Address:	410 North 44th St., Suite 1000	Copy To:	Cassandra McCloud	Company Name:	ARCADIS
	Phoenix, AZ 85008		cassandra.mccloud@arcadis-us.com	Address:	
Email To:	david.howard@arcadis-us.com	Purchase Order #:	CO001911.0003 1602A	Pace Quote:	
Phone:	602.797.4518 Fax:	Project Name:	Fibers Public Supply Wells	Pace Project Manager:	justin.stock@pacelabs.com
Requested Due Date:		Project #:	CO001911.0003 1602A	Pace Profile #:	1037 L-1

Regulatory Agency: CERCLA; State / Location: PR

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analyses Test Y/N	EPA 8260B Haloethers	SM 2320B Alkalinity	SM 5310B TOC	ASTM D516,90,02 Sulfate	EPA 6010 Dissolved Metals (Fe, Mn)	EPA 6010 Total Metals (Fe, Mn)	RSK 175 Methane	EPA 300.0 Chloride	Residual Chlorine (Y/N)	Comments
1	TB-20161104	WT	G			11/04/16	LAB		2				X						X									
2	INF-20161104	WT	G			11/04/16	1445		3				X						X									
3	EFF-20161104	WT	G			11/04/16	1509		3				X						X									
4	EFFDUP-20161104	WT	G			11/04/16	1509		3				X						X									
5	EFF-MS-20161104	WT	G			11/04/16	1509		3				X						X									
6	EFFMSD-20161104	WT	G			11/04/16	1509		3				X						X									
7																												
8																												
9																												
10																												
11																												
12																												

Fibers.

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Andrés Colom Arcadis	11/04/16	1658							
		11-7-16	11:00	Fed Ex	11/4/16	1458	3°	X	N	X
	Fed Ex	11-8-16	0815	Pace	11-8-16	0815	0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andrés Colom

SIGNATURE of SAMPLER:

DATE Signed: 11/04/16

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

WO# : 2045396

Sample Condition Upon Pr

PM: JLS Due Date: 11/22/16

CLIENT: 20-CHEV-ARC

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☐Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☐ Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 11-08-16 MB

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☐Yes	☐No ☐N/A	1
Chain of Custody Present:	☐Yes	☐No ☐N/A	2
Chain of Custody Complete:	☐Yes	☐No ☐N/A	3
Chain of Custody Relinquished:	☐Yes	☐No ☐N/A	4
Sampler Name & Signature on COC:	☐Yes	☐No ☐N/A	5
Samples Arrived within Hold Time:	☐Yes	☐No ☐N/A	6
Sufficient Volume:	☐Yes	☐No ☐N/A	7
Correct Containers Used:	☐Yes	☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No ☐N/A	9
Sample Labels match COC:	☐Yes	☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☐Yes	☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☐N/A	14
Trip Blank Present:	☐Yes	☐No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Attachment 3
Sampling and Monitoring Field Form

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time	Sampler's Initials
11/04/16	TB-20161104	LAB	LAB
11/04/16	INF-20161104	1445	AC
11/04/16	EFF-20161104	1509	AC
11/04/16	EFFDUP-20161104	1509	AC
11/04/16	EFFMS-20161104	1509	AC
11/04/16	EFFMSD-20161104	1509	AC

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	115.0	gpm
RW-4	160.0	gpm
RW-5	60.0	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	350.4	gpm
Effluent Flow Rate (FIT-301)	346.1	gpm
Blower (FIT-201A)	2145	cfm
Influent Flow Pressure (PIT-101)	2.6	psi
Effluent Flow Pressure (PIT-301)	14.2	psi
pH (pHIT-201A)	6.2	

Notes:
gpm = gallons per minute
cfm = cubic feet per minute
psi = pounds per square inch